

BIOGRAPHICAL SKETCH

Name:

Andrew P. Somlyo, M.D.

Position Title:

Chairman and Charles Slaughter
Professor of Physiology,
Professor of Medicine

<u>Institution and Location</u>	<u>Degree</u>	<u>Year Conferred</u>	<u>Field of Study</u>
University of Pennsylvania, Honoris Causa	M.A.	1981	
Drexel University of Technology	M.S.	1963	Bioengineering
University of Illinois	B.S.	1954	
University of Illinois	M.D.	1956	
University of Illinois	M.S.	1956	Pathology

Research and/or Professional Experience:

1988 Chairman and Charles Slaughter Professor of Physiology, Professor of Medicine (Cardiology), University of Virginia, School of Medicine, Charlottesville, VA

1973-88 Director, Pennsylvania Muscle Institute, Univ. of Pennsylvania, Phil., PA

1973-88 Professor of Physiology and Pathology, Univ. of Pennsylvania, Phil. PA

1971-88 Professor of Pathology, Univ. of Pennsylvania, Phil. PA

1967-71 Associate Professor of Pathology/Member of the Graduate Group in Cell Physiology

1963-67 Assistant Professor of Pathology, University of Pennsylvania, School of Medicine, Phil. PA

Memberships/Professional and Scientific Societies:

American Association for Advancement of Science
Society of General Physiologists
American Physiology Society
Biophysical Society
Microbeam Analysis Society

Honors:

British Heart Foundation Visiting Professor, Hammersmith Hospital, London, UK

Visiting Professor, Shanghai Medical University, China

1991 Ciba-Geigy Award for Hypertension Research

Government Committees:

Consultant to and/or member of: NIH Review Group Panels and NSF Review Board.

Non-Government Committees:

1988 University of Virginia: Executive Committee, Medical Advisory Committee, the School of Medicine, Charlottesville, VA.

1987-88 Advisory Board, MDA Muscle Center

Publications (selected from over 200 refereed)

Bond, M., Vadasz, G., Somlyo, A.V. and Somlyo, A.P. (1987). Subcellular calcium or magnesium mobilization in rat liver stimulated in-vivo with vasopressin and glucagon. J. Biol. Chem. 262:15630-15636.

Himpens, B. and Somlyo, A.P. (1988). Free calcium and force transients during depolarization and pharmacomechanical coupling in guinea-pig smooth muscle. J. Physiol. Lond. 395:507-529.

Somlyo, A.V., Goldman, Y.E., Fujimori, T., Bond, M., Trentham, D.R. and Somlyo, A.P. (1988). Crossbridge kinetics, cooperativity and negatively strained crossbridges in

- vertebrate smooth muscle: a laser flash photolysis study. *J. Gen. Physiol.* 91:165-192.
- Jorgensen, A.P., Broderick, R., Somlyo, A.P. and Somlyo, A.V. (1988). Two structurally distinct calcium storage sites in rat cardiac sarcoplasmic reticulum: An electron microprobe analysis study. *Circ. Res.* 63:1060-1069.
- Somlyo, A.V., Broderick, R., Shuman, H., Buhle, Jr., E.L. and Somlyo, A.P. (1988). Atrial specific granules in-situ have high calcium content, are acidic, and maintain anion gradients. *Proc. Natl. Acad. Sci. USA* 85:6222-6226.
- Himpens, B., Matthijs, G. and Somlyo, A.P. (1989). Desensitization to cytoplasmic Ca^{2+} and Ca^{2+} -sensitivities of guinea-pig ileum and rabbit pulmonary artery smooth muscle. *J. Physiol. (Lond.)* 413:489-503.
- Kitazawa, T., Kobayashi, S., Horiuti, K., Somlyo, A.V. and Somlyo, A.P. (1989). Receptor coupled, permeabilized smooth muscle: Role of the phosphatidylinositol cascade, G-proteins and modulation of the contractile responses to Ca^{2+} . *J. Biol. Chem.* 264:5339-5342.
- Kobayashi, S., Kitazawa, T., Somlyo, A.V. and Somlyo, A.P. (1989). Cytosolic heparin inhibits muscarinic and α -adrenergic Ca^{2+} -release in smooth muscles: Physiological role of inositol 1,4,5-trisphosphate in pharmacomechanical coupling. *J. Biol. Chem.* 264:17997-18004.
- Somlyo, A.V., Kitazawa, T., Horiuti, T., Kobayashi, S., Trentham, D.R. and Somlyo, A.P. (1989). Heparin-sensitive inositol trisphosphate signaling and the role of G-proteins in Ca^{2+} -release in contractile regulation in smooth muscle. *Bozler Symp.: Frontiers in Smooth Muscle Research*, R. Liss, Inc., pp. 167-182.
- Horiuti, K., Somlyo, A.V., Goldman, Y.E., and Somlyo, A.P. (1989). Kinetics of contraction initiated by flash photolysis of caged adenosine trisphosphate in tonic and phasic smooth muscles. *J. Gen. Physiol.* 94:769-781.
- Baumann, O., Kitazawa, T. and Somlyo, A.P. (1990). Laser confocal scanning microscopy of the surface membrane/T-tubular system and the sarcoplasmic reticulum in insect striated muscle stained with $\text{Dil}_{18}(3)$. *J. Struct. Biol.* 105:154-161.
- Himpens, B., Kitazawa, T. and Somlyo, A.P. (1990). Agonist-dependent modulation of the Ca^{2+} -sensitivity in rabbit pulmonary artery smooth muscle. *Eur. J. Physiol.* 417:21-28.
- Kitazawa, T. and Somlyo, A.P. (1990). Desensitization and muscarinic resensitization of force and myosin light chain phosphorylation to cytoplasmic Ca^{2+} in smooth muscle. *Biochem. Biophys. Res. Commun.* 172:1291-1297.
- Kobayashi, S., Cong, M.C., Somlyo, A.V. and Somlyo, A.P. (1990). Ca^{2+} channel blockers distinguish between G-protein-coupled, pharmacomechanical Ca^{2+} -release and Ca^{2+} -sensitization in smooth muscle. *Am. J. Physiol.* 260:C364-C370.
- Somlyo, A.P. and Somlyo, A.V. (1990). Flash photolysis studies of excitation-contraction coupling regulation and contraction in smooth muscle. *Ann. Rev. Physiol.* 52:857-874.
- Yang, J., Takcyasu, K., Somlyo, A.P. and Shao, Z. (1991). Molecular Resolution Imaging of Polyglucose by Scanning Tunneling Microscopy. *FEBS Letters.* 297:295-299.
- Baumann, O., Walz, B., Somlyo, A.V. and Somlyo, A.P. (1991). Electron probe microanalysis of calcium release and magnesium uptake by endoplasmic reticulum in bee photoreceptors. *Proc. Natl. Acad. Sci. USA* 88:741-744.
- Kitazawa, T., Gaylinn, B.D., Denney, G.H. and Somlyo, A.P. (1991). G-protein-mediated Ca^{2+} -sensitization of smooth muscle contraction through myosin light chain phosphorylation. *J. Biol. Chem.* 266:1708-1715.
- Kitazawa, T., Masuo, M., and Somlyo, A.P. (1991). G-protein-mediated inhibition of myosin light chain phosphatase in vascular smooth muscle. *Proc. Natl. Acad. Sci. USA* (in press).
- Wang, Y.Y., Ho, R., Shao, Z. and Somlyo, A.P. (1991). Optimization of Quantitative Electron Energy Loss Spectroscopy in the Low Loss Region: Phosphorus. *Ultramicroscopy* (in press).
- Shimada, T. and Somlyo, A.P. (1992). Modulation of voltage-dependent Ca channel current by arachidonic acid and other long-chain fatty acids in rabbit intestinal smooth muscle. *J. Gen. Physiol.* (in press).